

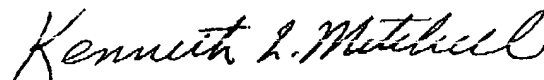
REMARKS

This is in response to the office action dated March 22, 2005. It is respectfully urged that new claim 3 is in a condition for allowance. The specification has been corrected as required by the Examiner. Replacement pages 2 and 3 are presented herewith. New claim 3 avoids the rejections under 35 USC 112 and 35 USC 102 (b). New dependent claims 4 and 5 have been added to recite lower and upper portions (claim 4) of the guide and an inflection point (claim 5) between said first and second arc-shaped portions. Claims 3, 4 and 5 are believed allowable.

Applicants note the references cited by the Examiner and wish to thank the Examiner for his careful review of the application.

Respectfully Submitted,

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generated at a meshing position where the roller chain was meshed with the driving sprocket.

Further, such a change in the speed of the roller chain leads to a cause of falling down, falling out or the like, which is generated in a conveying article on a conveyor, so called a stick slip phenomenon, and generates forward and backward motions and up and down motions of assembled articles on an assembling line, so called a seasickness phenomenon thereby to produce an assembly defective, or an change in tension in the roller chain is generated and an excessive driving power is required whereby a chain's size is increased and vibration and noise is increased, which makes conveying operation environment worse.

Accordingly, the objects of the present invention are to solve the above-mentioned related art problems and to provide a conveying chain guide, in which the stick slip phenomenon of a conveying chain, which meshes with a driving sprocket, and a seasickness phenomenon are removed whereby stable conveying of articles can be smoothly realized and the driving force and vibration noise of a conveying chain can be remarkably reduced.

Means for Solving the Problems

The invention of claim 1 solves the above-mentioned problems by that a conveying chain guide disposed in a transfer position just before a conveying chain, in which a number of rollers were sequentially pivot-connected to each other at given chain pitches and said conveying chain was traveled on a linear rail for supporting a conveying surface at a fixed speed, is meshed with a driving sprocket, which is rotated at a fixed speed, and including a guide track to cancel an change in the speed

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generated in the rollers of said conveying chain, which performs a polygonal motion at a meshing position just after said conveying roller chain was meshed with said driving sprocket, characterized in that when continuous three rollers in the conveying chain is to be meshed with the sprocket while gradually descending from the linear rail for supporting the conveying surface toward said driving sprocket, in such an arrangement traveling state that always corresponds to a linear rail for supporting the conveying surface, a transfer position and a meshing position, said guide track is defined along an movement passage of the roller in said transfer position.

The invention of Claim 2 further solves the above-mentioned problems by that in addition to the configuration of the above-mentioned claim 1, that said guide track has continuous two arc-shaped curves.

"The transfer position" in the present invention means a movement region from the linear rail R for supporting the conveying surface to a position where the roller in the conveying chain sent from the linear rail for supporting the conveying surface approaches the driving sprocket while descending to mesh with it. Further, "the meshing position" in the present invention means a movement region from a position where the roller meshed with the driving sprocket to a position where the roller was moved until a subsequent roller meshes with the driving sprocket.

Action

According to the present invention, when continuous three rollers in the conveying chain is to be meshed with the sprocket while gradually descending from the linear rail for supporting the conveying surface toward the driving sprocket, in such an arrangement traveling state that always corresponds to a linear rail for supporting the